

Reply to Office Action of October 18, 2007

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A plant cultivation system, comprising:

a porous enclosure, wherein the porous enclosure is a conformable sealed porous bag; and

a water insoluble polymer contained within the porous enclosure, wherein the water insoluble polymer is a particulate poly(ethylene oxide) hydrogel which has been rendered insoluble in water by physical or chemical cross-linking.
2. (Withdrawn) A plant cultivation system as in Claim 1, which is placed close to the roots of plants growing in the ground.
3. (Previously Presented) A plant cultivation system as in Claim 1, which is placed close to the roots of plants growing in pots or containers.
4. (Cancelled)

5. (Previously Presented) A plant cultivation system as in Claim 1, wherein the hydrogel particles are between 100 microns to 1cm in diameter.
6. (Previously Presented) A plant cultivation system as in Claim 1, wherein the poly(ethylene oxide) hydrogel contains additives.
7. (Previously Presented) A plant cultivation system as Claim 1, wherein the poly(ethylene oxide) hydrogel is coloured.
8. (Previously Presented) A plant cultivation system as in Claim 1, wherein the poly(ethylene oxide) hydrogel swells rapidly on contact with water.
9. (Previously Presented) A plant cultivation system as in Claim 1, wherein one kilogram of dry poly(ethylene oxide) hydrogel will store 3 to 20 litres of water.
10. (Previously Presented) A plant cultivation system as in Claim 1, wherein the porous bag is rapidly permeable to water.

11. (Previously Presented) A plant cultivation system as in Claim 1, wherein the porous bag is produced in different sizes, such that it is suitable for a range of plants and containers.

12. (Previously Presented) A plant cultivation system as in Claim 1, wherein the porous bag is produced in a range of different shapes, so that it is suitable for a range of plants and containers.

13. (Previously Presented) A plant cultivation system as in Claim 1, wherein the amount of poly(ethylene oxide) hydrogel in a porous bag is altered depending on the water requirements of the plant for which it is to be used with.

14. (Previously Presented) A plant cultivation system as in Claim 1, wherein the size of the pores in the exterior material of the porous bag do not allow the significant escape of contained particulate hydrogel.

15. (Previously Presented) A plant cultivation system as in Claim 1, wherein the porous bag is sealed by heat sealing.

16. (Previously Presented) A plant cultivation system as in Claim 1, wherein the bag is sealed by stitching.

17. (Previously Presented) A plant cultivation system as in Claim 1, wherein the bag is sealed by glue.

18. (Previously Presented) A plant cultivation system as in Claim 1, wherein the porous bag is produced from a material with an air water surface contact angle below 90° .

19. (Withdrawn) A plant cultivation system as in Claim 1, wherein for plants with low water requirements, the porous bag is produced from a material with an air water surface contact angle of greater than 90° .

20. (Previously Presented) A plant cultivation system as in Claim 1, wherein the porous bag is produced from cellulose or a cellulose derivative.

21. (Previously Presented) A plant cultivation system as in Claim 1, wherein the porous bag is knitted, braided, woven or in the form of felt.

22 – 26. Canceled.

27. (New) A plant cultivation system as in Claim 1, wherein the hydrogel has predetermined water release characteristics determined based on a plant and container to which the hydrogel is applied.

28. (New) A plant cultivation system as in Claim 27, wherein the water release characteristics of the hydrogel are established based on at least one of a particle size of the hydrogel, a volume of the porous bag, or a fill level of the hydrogel in the porous bag.

29. (New) A plant cultivation system as in Claim 27, wherein the water release characteristics of the hydrogel are not affected by fertilizers or salts.

30. (New) A plant cultivation system as in Claim 1, wherein the porous bag containing the hydrogel conforms to a shape of a container in which it is positioned.

31. (New) A plant cultivation system as in Claim 1, wherein the poly(ethylene oxide) hydrogel comprises a neutral polymer that absorbs water at a first rate and then releases substantially all of the components of the water over time at a second rate, wherein the first rate is greater than the second rate.

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32. (New) A plant cultivation system as in Claim 31, wherein the porous bag remains sealed and intact while the polymer absorbs water and releases water.